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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,610	04/22/2004	Ian D. Parker	UC0306USNA	6868

23906 7590 11/02/2005

E I DU PONT DE NEMOURS AND COMPANY
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EXAMINER	
NGUYEN, THINH T	

ART UNIT	PAPER NUMBER
2818	

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/829,610	PARKER, IAN D.	
	Examiner	Art Unit	
	Thinh T. Nguyen	2818	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *11-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *11-16* is/are rejected.

7)☐ Claim(s) *11-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED OFFICE ACTION

1. Applicant's election of claims 11-16 for prosecution in the communication with the Office on 8/24/2005 is acknowledged.

Specification

2. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant cooperation is requested in correcting any errors of which the applicant may become aware in the specification.

Claim Objection

3. Claim 11-16 are objected to for the recitation: - - **a** liquid composition covering the first portion of the surface -- in independent claim 11.

Since claim 11 is a structural claim the Examiner does not know what embodiment of the invention the Applicant want to claim because it looks like the liquid composition is only an intermediate product and the final product is in solid form.

Correction or clarification is required.

Claim Rejections - 35 USC § 102

4. The Examiner noted that claim 1 has the limitation in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

5. The Examiner also noted that many claims in the present Application in fact are hybrid product by process because the final product is a solid structure. Many of the claims of the present application; the intermediate product that are hybrid liquid solid form with the liquid will eventually become solid.

In a product-by-process claim, it is the patentability of the claimed product and not of the recited process steps, which must be established. Therefore, when the prior art discloses a product, which reasonably appears to be identical with or only slightly different than the product claimed in a product-by process claim, a rejection based on sections 102 or 103 is fair. The Patent Office is not equipped to manufacture products by a myriad of processes put before it and then obtain prior art product and make physical comparisons therewith. In re Brown, 173 USPQ 685 (CCPA 1972). Also, a product by process claim directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ I S at 17 (footnote 3). See In re Fessman, 180 USPQ 324, 326 (CCPA 1974); In re Marosi et al., 218 USPQ 289, 292 (Fed. Cir. 1983); and particularly In re Thorpe, 227 USPQ 964, 966 (Fed. Cir. 1985), all of which make it clear that it

is the patentability of the final structure of the product "gleaned" from the process steps, which must be determined in a " product by process" claim, and not the patentability of the process. See also MPEP 2113. Moreover, an old and obvious product produced by a new method is not a patentable product, whether claimed in "product by process" claims or not.

Note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re Marosi et al, 218 USPQ 289; and particularly In re Thorpe, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that applicant has the burden of proof in such cases, as the above caselaw makes clear.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(a/b/e) that form the basis for the rejections under this section made in this office action.

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application

designated the United States and was published under Article 21(2) of such treaty in the English language.

7. To expedite the prosecution of the case, the Examiner assumes that the Applicant will amend claims 11-16 to overcome the Examiner Objection and Examines claim 11-16 as best as it can be understood by the Examiner.

8. Claim 11 is under 35 U.S.C. 102(b) as being anticipated by Rothschild et al. (U.S. Patent 5,435,887).

REGARDING CLAIM 11

Rothschild (in the abstract, in fig 4, in fig 5, column 2 line 4-15) a device comprising: a substrate having a surface with a first portion and a second portion, without a well structure connected to or adjacent the first portion of the surface or the second portion of the surface, wherein the first portion of the surface has a first surface energy and the second portion of the surface has a second surface energy; and a liquid composition covering the first portion of the surface and contacting the second portion of the surface, wherein the liquid composition has a third surface energy that is higher than the first surface energy and lower than the second surface energy.

Noted that the limitation in the preamble of claim 11 is not considered when compare this claim with the disclosure by Rothschild as set forth in paragraph 3 of the Office Action.

Moreover, even though Rothschild does not disclose that the liquid composition covering the first portion this limitation is either inherent from Rothschild disclosure since the Rothschild method and Applicant method is the same and therefore results in the same structure. That means

there are some partial covering of the first portion in the disclosure by Rothschild and effectively make it anticipates claim 11.

Noted that when a liquid composition is dropped over a substrate it will adhere primarily to the portion that has higher surface energy as disclosed by the Applicant in fig 9 and page 27 lines 1-5 of Applicant Specification in agreement with the disclosure by Rothschild on column 2 lines 15-16 of his disclosure.

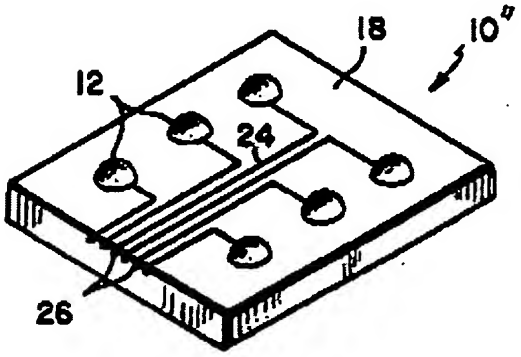


FIG. 3

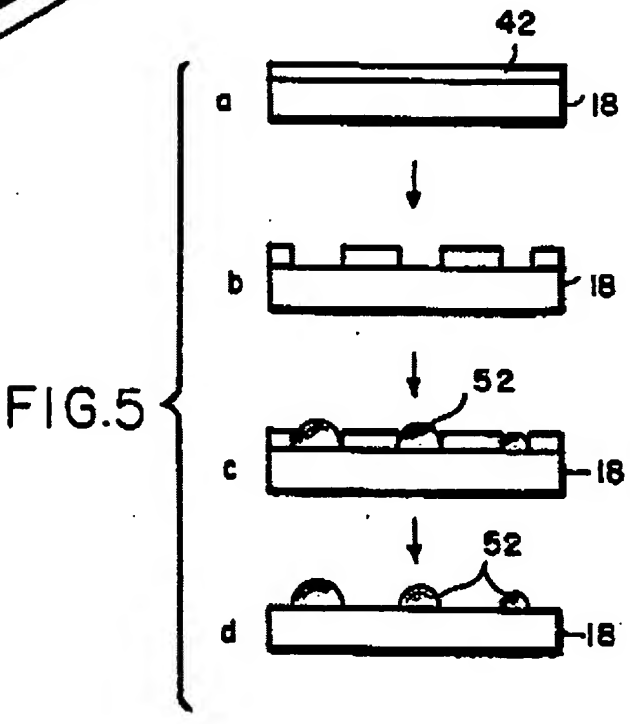


FIG.5

Claim Rejections - 35 USC § 103

9. The following is a quotation of U.S.C. 103(a) which form the basis for all obviousness rejections set forth in this office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 12,15,16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeo (US patent 6,838,361) in view of further remark.

REGARDING CLAIM 12

Takeo (in fig 8(a), fig 8(b) column 2 lines 33-61) discloses all the invention including active liquid organic material PDOT (column 2 lines 35-37) dropping on a substrate that has a first portion (Fig 8 reference 102) and another portion (fig 8 reference 100) that surrounds the first portion with different surface energy.

Missing in the Takeo disclosure is that the surface energy of the liquid has to be in the range as being lower than the first portion and higher than the first portion of the substrate.

This limitation, however, is considered obvious since it has been held that when a general condition of a claim is disclosed in the prior art, discovering the optimum value or workable range is within the routine skill of an ordinary artisan.

REGARDING CLAIM 15,16

Takeo discloses (in fig 7(a), 7(b), 7(c)) the use of Fluorine surfactant.

The rationale why claim 15,16 is obvious over the Takeo 361 reference has been discussed in the rejection of claim 12.

Fig.7(a).
Self-alignment with large wettability contrast

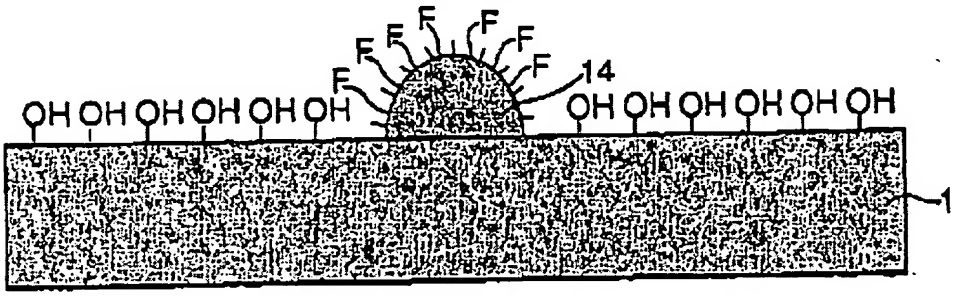


Fig.7(b).

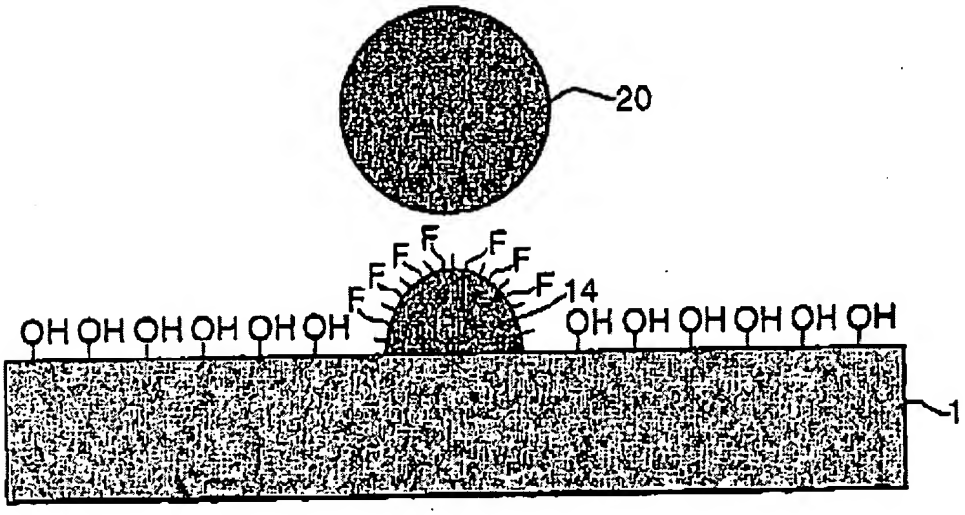
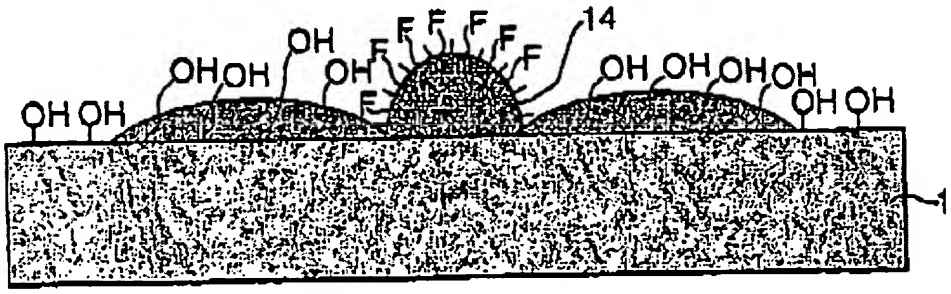


Fig.7(c).



11. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohtani (US patent 6,277,679) in view of Takeo (US patent 6,838,361).

REGARDING CLAIM 13.

Ohtani disclose all the invention (fig 4(C) including a portion of channel region 225 that is inherently a charge transport layer that with other portions 224 and 223 on the same substrate and the use of ink-jet (column13 line 44) to make different layers of Organic electronics device (noted that the channel of a transistor when active will carry or transport electrons and holes to and from source to drain).

Missing in the Ohtani disclosure is the specific formation of the organic electronics device using surface energy.

Takeo, however, in the abstract, discloses how to use the surface energy to pattern organic electronics device. It would have been obvious to one of ordinary skill in the art to combine the teachings by Ohtani with Takeo in order to come up with the invention of claim 13. The rationale is as the following:

A person skilled in the art at the time the invention was made would have been motivated

To modify the teachings by Ohtani with the teachings by Takeo to make the production line more cost effective as suggested by Takeo (column 3 lines 18-20).

12. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori (US patent 6,930,322) in view of Takeo (US patent 6,838,361).

Mori (fig 2) disclose all the invention including a substrate with a portion that has electrode (fig 2 layer 6) and a portion with insulation layer (fig 2 layer 3).

Missing in the Mori disclosure is the specific formation of the organic electronics device using surface energy.

Takeo, however, in the abstract, discloses how to use the surface energy to pattern organic electronics device. It would have been obvious to one of ordinary skill in the art to combine the teachings by Ohtani with Takeo in order to come up with the invention of claim 13.

The rationale is as the following:

A person skilled in the art at the time the invention was made would have been motivated To modify the teachings by Mori with the teachings by Takeo to make the production line more cost effective as suggested by Takeo (column 3 lines 18-20).

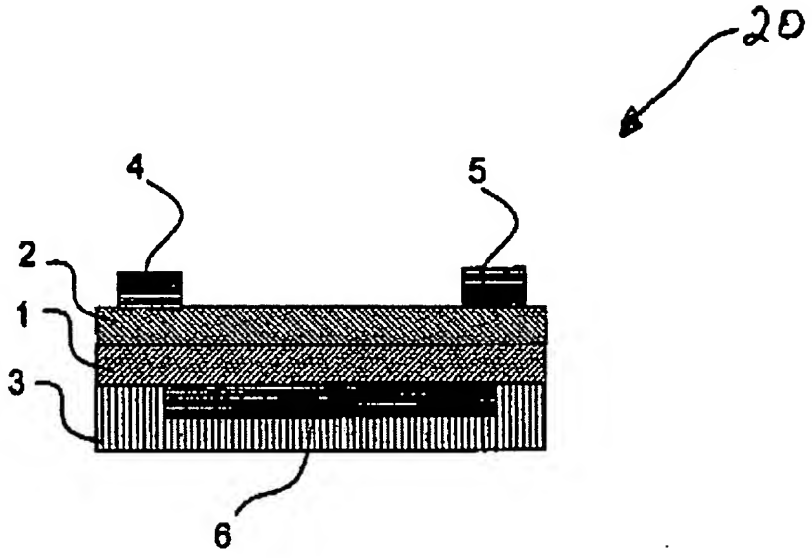


Fig. 2

13. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and the page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.

14. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to be abandoned (see M.P.E.P. 710.02(b)).

CONCLUSION

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thinh T Nguyen whose telephone number is 571-272-1790. The examiner can normally be reached on Monday-Friday 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached at 571-272-1787.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval [PAIR] system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thinh T. Nguyen

Art Unit 2818